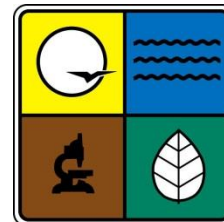


Energy Stakeholder Meeting

Division of Energy – Renewable Energy
November 10, 2011 – Kansas City, MO



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Mission and Vision

- **Mission:** The mission of the Missouri Department of Natural Resources is to protect, preserve and enhance Missouri's natural, cultural and energy resources.
- **Vision:** The department envisions a Missouri where people live and work in harmony with our natural and cultural resources, making decisions that result in a quality environment and a place where we can prosper today and in the future.

Division Mission

The Missouri Department of Natural Resources' Division of Energy is a nonregulatory entity that works to protect the environment and stimulate the economy through energy efficiency and renewable energy resources and technologies.

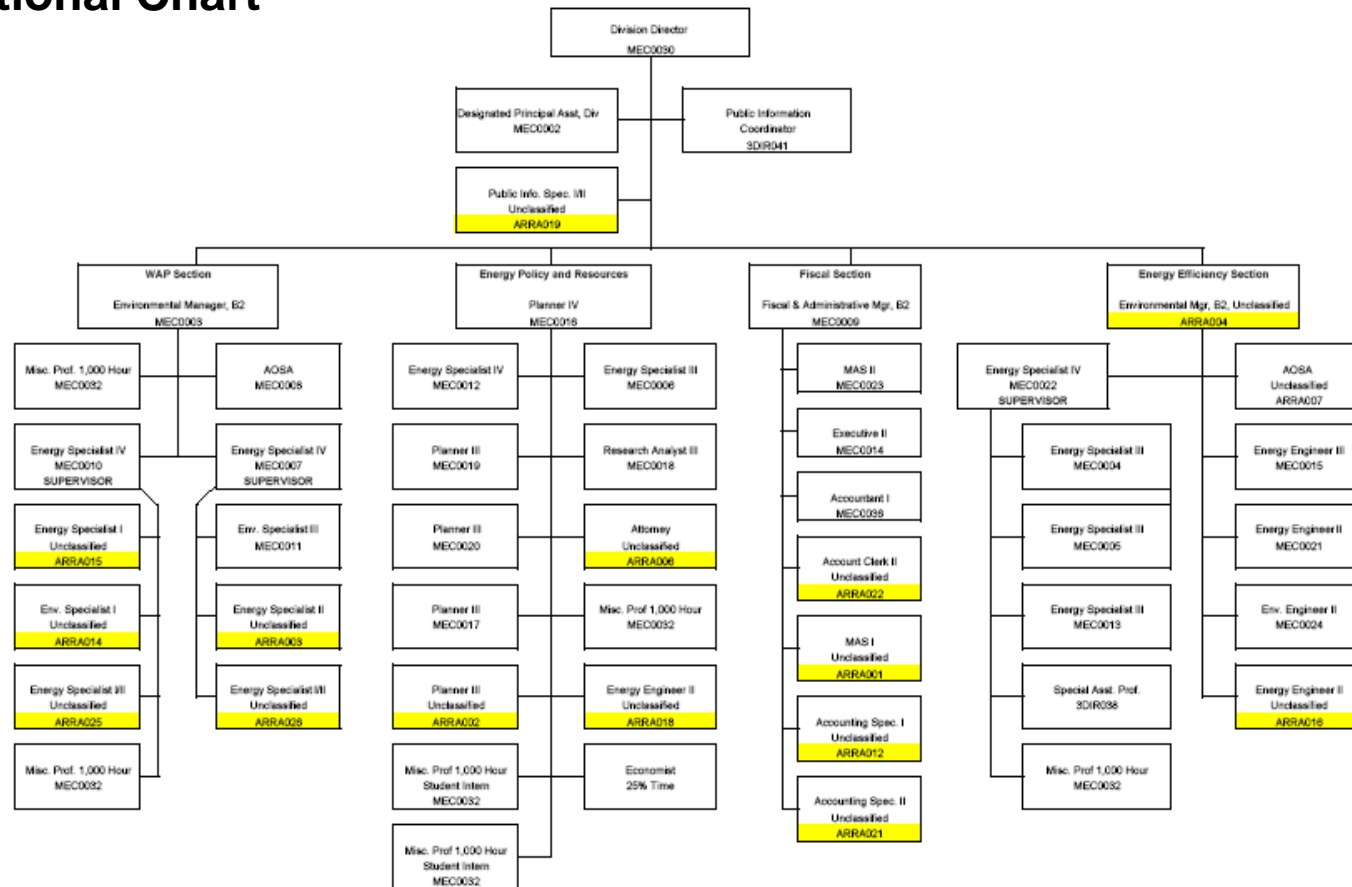
Overview:

- Organization of the division.
- Brief summary of all programs.
- Focus on renewable energy resource efforts.
- Collaboration on renewable energy resources with other agencies.

Organization of the Division

Missouri Department of Natural Resources

Organizational Chart



Organization of the Division

35 FTE

Total Budget:

Federal

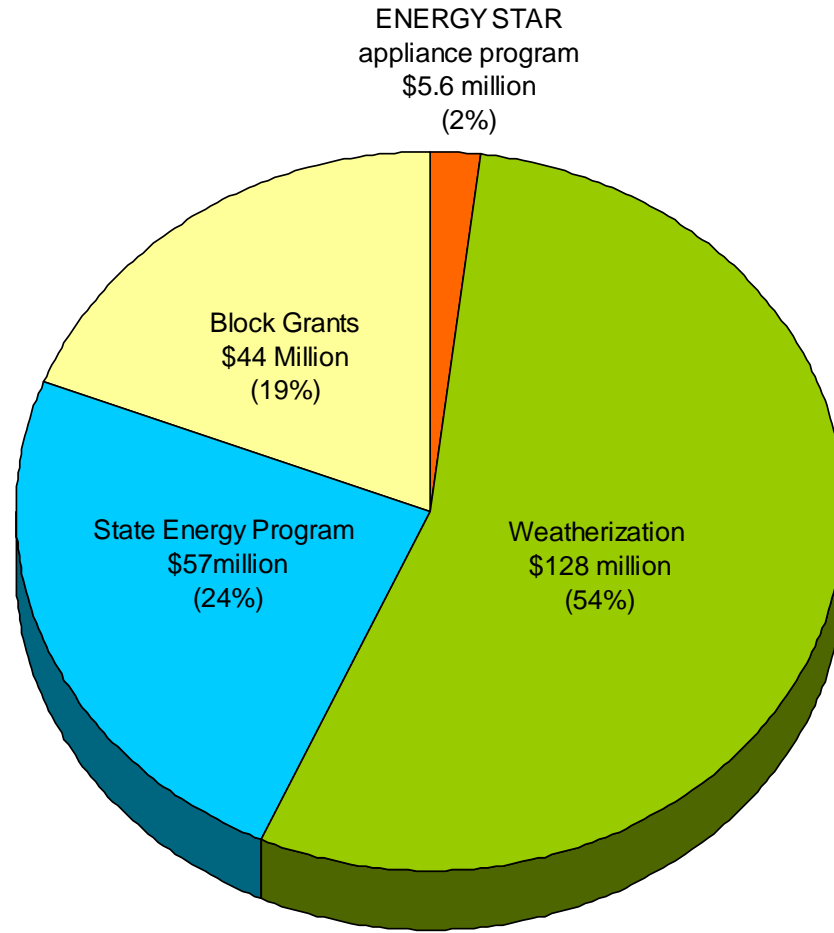
- Weatherization
 - Pre-ARRA \$5 mil
 - ARRA \$128 mil
- State Energy Program
 - Pre-ARRA \$700K
 - ARRA \$57 mil

State Funds

- Interest from Energy Revolving Loan Fund

American Recovery and Reinvestment Act of 2009 (ARRA)

Funding Breakdown



Brief Summary of All Programs

Division of Energy Programs

- Energy Policy and Resources – Legislation, energy resource assessments/supplies, studies, regulatory proceedings, utility collaborative, energy bulletins
- Energy Efficiency – Implements programs, revolving loan fund, state government energy efficiency, state fleet efficiency and alternative fuels.
- Weatherization Assistance Program – Implements federal weatherization program, utility weatherization funds
- Fiscal & Administrative – Budget, accounting, human resources, reporting

Division Roles and Responsibilities

- Statutes
 - DNR's energy responsibilities/authorization.
 - Energy conservation loan program.
 - Certification of home energy auditors.
 - Energy efficiency in state facilities.
 - State vehicle fuel consumption/alternative fuels.
 - Certification of renewable energy resources (RES).
 - Review of eligibility for tax credits – wood energy & alt fuel refueling infrastructure.
- Federal Regulations
 - State Energy Program.
 - Weatherization Assistance Program.

Focus on Renewable Energy Resource Efforts

Key Renewable Energy Activities

- Funding 17 renewable energy feasibility studies and 2 biogas projects (ARRA)
- Funding for small cost-share grants to farmers (ARRA)
- Assessment of MO's renewable energy resources (wind, biomass, geothermal-ARRA)
- Renewable energy standard implementation
- Review regulated utilities long-term resource plans for consideration of renewable resources
- Information to citizens re. resource potential, financial incentives and technical assistance

Key Renewable Energy Activities (cont.)

- Funding for homeowner geothermal systems (ARRA)
- Wood Energy Tax Credit Program
- Missouri Alternative Fuel Infrastructure Tax Credit

Energize Missouri Renewable Energy Studies

- Provided \$734,498 in funding to 17 entities for renewable energy studies to increase the ability of businesses, governments and organizations to make informed decisions about complex renewable energy systems.
- Studies range from solar thermal and PV to the conversion of biomass resources.



Greenhouse

Energize Missouri Renewable Energy Biogas Program

- Provided \$900,000 in funding for shovel-ready anaerobic digester or landfill gas-to-energy projects. Grant funds supported one anaerobic digestion-to-energy system and one landfill biogas-to-energy project.



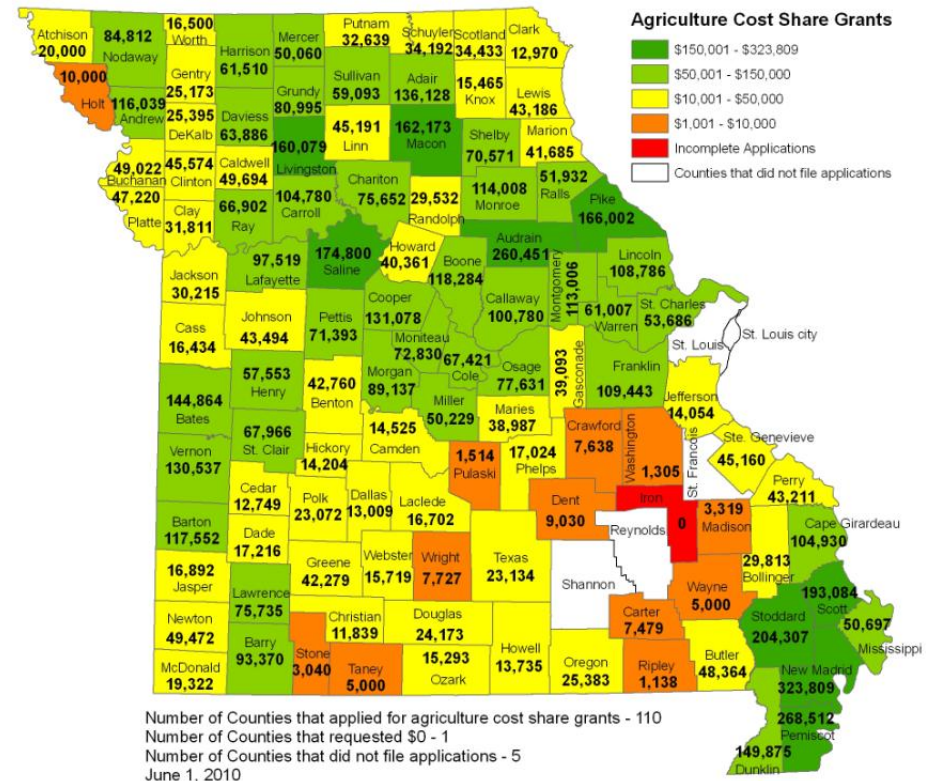
Hampton Feedlot anaerobic digesters.

Energize Missouri Agriculture

- **Agriculture Cost Share Grants**
- Objective: Reimburse farmers up to 75% of the cost of energy-saving equipment and solar systems.
 - Total Number Reimbursements: 1,535.
 - Total Amount awarded: \$5.7 million.
 - Examples of equipment and systems include Global Positioning Systems (GPS), solar fencers and grain dryers.

Agriculture Cost Share Grant Applications

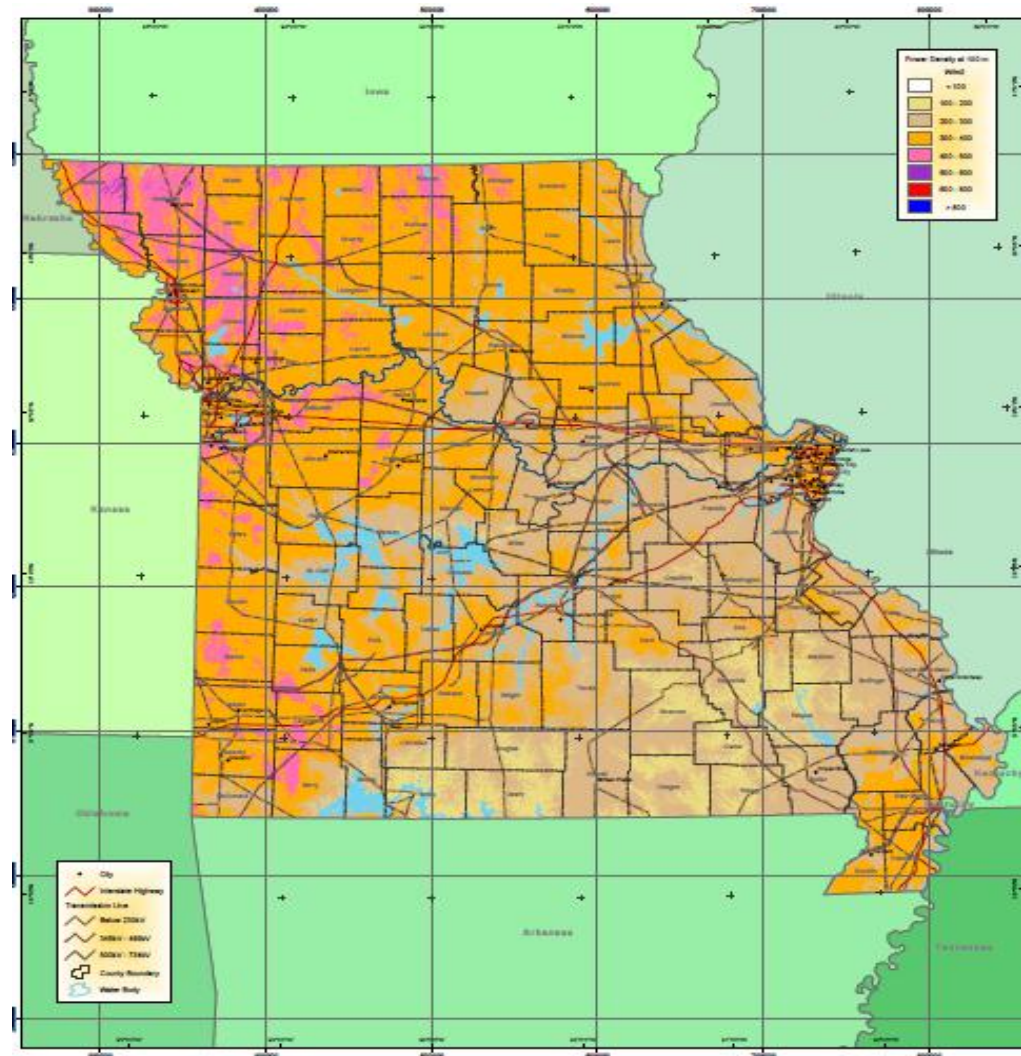
Total cost share requested - \$6,486,841
Number of Applications - 1,692
Average cost share requested - \$3,834



Renewable Energy Standard

DNR rulemaking to certify eligible renewable resources and insure no undue adverse environmental impacts of renewable energy generation.

Missouri Department of Natural Resources

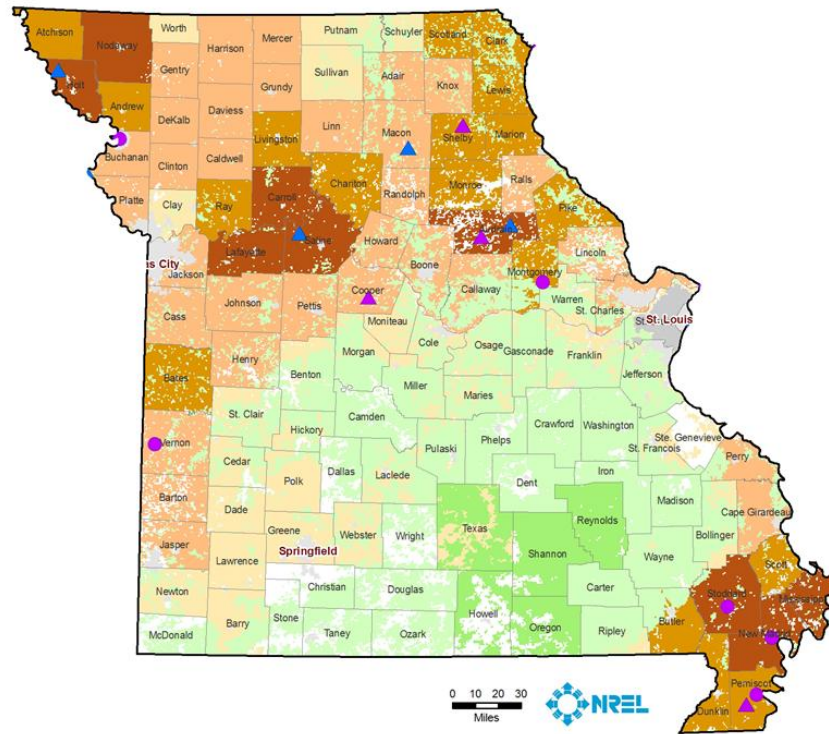


Wind



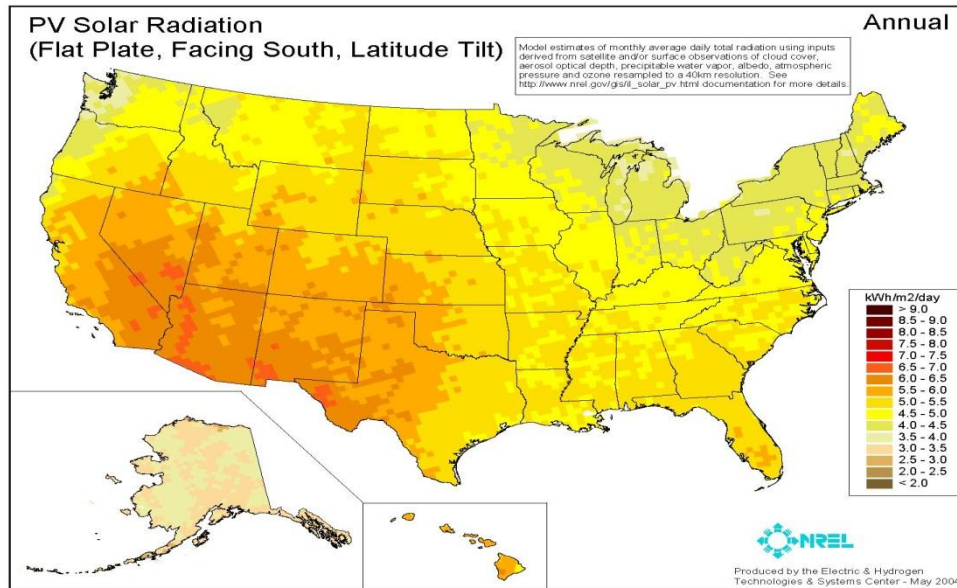
- Missouri was ranked 20th by American Wind Energy Association and now is ranked 13th by National Renewable Energy Laboratory in wind energy potential.
- Total installed capacity in Missouri of 457 megawatts of electricity provided by wind.

Missouri Department of Natural Resources



Biomass (Thousand T/year/county)		0	1-100	100-250	250-500	> 500
Crops and Crop Residues						
Forest and Primary Mill Residues						
Urban Wood and Secondary Mill Residues						
Facilities		Active	Under Construction			
Ethanol Biorefinery		▲	●			
Biodiesel Production Facility		▲	●			
				States	—	
				Counties	—	
				Urban Areas	—	

Solar



- Missouri has meaningful amount
- Challenges
- Financial incentives
- There is more than 625 kilowatts of installed solar photovoltaic capacity in Missouri as of the end of 2010.

Landfill



St. Joseph Landfill

- Currently, Missouri has 11.5 megawatts of electric generation capacity and several direct heating applications from landfill gas to energy projects.
- There are also nearly 20 megawatts of electric generation capacity from landfills under development.

Property Assessed Clean Energy (PACE)

- Governor approved (July 12, 2010).
- Major mortgage companies not in support (Fannie Mae, Freddie Mac).
- Commercial and industrial opportunities will exist.
- Progress at local levels to implement for businesses.

Collaboration on Renewable Energy with Other Agencies

Department of Agriculture

Coordinate regarding:

Transportation fuels

- Development and use of Missouri's biofuels
- Monitor prices and supplies of E-10 fuels
- Alternative fuel refueling infrastructure

Public Service Commission (PSC)

Coordinate regarding:

- Renewable Energy Standard implementation
- Review regulated utilities long-term resource plans for consideration of renewable resources

Department of Economic Development

Coordinate regarding:

- Financial/tax incentives for new renewable energy projects and manufacturing of components to locate in Missouri
 - Qualified Energy Conservation Bonds (QECBs)
- Financial incentives available to consumers

Department of Revenue

- **Wood Energy Tax Credit Program** - The Division of Energy evaluates the tax credit applications and certifies to the Department of Revenue each applicant that qualifies as a wood energy-producing facility.
- **Missouri Alternative Fuel Infrastructure Tax Credit** –This tax credit is available to business owners who invest in alternative fuel infrastructure projects in Missouri. The Division reviews the applications and certify to the Department of Revenue each eligible applicant that qualifies for the tax credit.

Department of Natural Resources

Coordinate with:

- Division of Environmental Quality on new renewable energy facility permit requirements and monitoring of undue adverse environmental impacts on air, water and land (per RES).
- Division of Geology and Land Survey on ARRA geothermal assessment study